

<u>6,526,658IM52US,</u>	<u>6,315,399MJ10US,</u>	<u>6,338,548MJ11US,</u>
<u>6,540,319MJ12US,</u>	<u>6,328,431MJ13US,</u>	<u>6,328,425MJ14US,</u>
<u>09/575,127MJ15US,</u>	<u>6,383,833MJ34US,</u>	<u>6,464,332MJ47US,</u>
<u>6,390,591MJ58US,</u>	<u>09/575,152MJ62US,</u>	<u>6,328,417MJ63US,</u>
<u>6,409,323PAK04US,</u>	<u>6,281,912PAK05US,</u>	<u>6,604,810PAK06US,</u>
<u>6,318,920PAK07US,</u>	<u>6,488,422PAK08US,</u>	<u>09/575,108PEC01US,</u>
<u>09/575,109PEC02US,</u>	<u>09/575,110PEC03US</u>	

The disclosures of these co-pending applications are incorporated herein by cross-reference. Each application is temporarily identified by its docket number. This will be replaced by the corresponding USSN when available.

3-13

The paragraph beginning at Page 3, lines ~~16-26~~, to be amended as follows:

In our earlier application ~~docket number~~ NPP001US USSN 09/575,187, we have proposed a printer which prints both the machine- and human-readable information simultaneously and a system that has the ability to print customized versions of documents, for example newspapers, for different customers. When the same printer prints the machine- and human-readable information, it is relatively simple to associate unique page and location IDs with the human-readable data. However, where pages are used with pre-printed or pre-formed tags it is necessary to associate each page with the data printed on a page-by-page basis. Even with mass production there is no certainty that a particular paper sheet will have particular information printed on it or that particular information will be printed on a sheet having a particular page ID or sheets having a particular range of page IDs.

8 25-31

9 1-22

The paragraph beginning at Page ~~8~~, lines ~~22-31~~, through to Page ~~10~~, lines 1-17 to be amended as follows:

Each of the paper sheets 1012 is pre-printed or pre-formed with tags 1017 on at least one surface of each of the sheets 1012 with tags 1017 on each surface encoding a common page ID and each encoding a unique (on the surface) location ID. Whilst it is preferred that there is a one-to-one relationship between a page ID and a physical surface, this is not essential. A single surface may have more than one region, each with a different page ID.

Similarly a single region having a single page ID may span more than one physically separate distinct surface, such as a number of sheets of paper. Tags at the same location on different surfaces have different page IDs but typically the same location ID. Page IDs are preferably unique to each surface but where not, two or more of the page ID and location IDs may serve to uniquely identify a page, as will be explained later. For a full explanation of tags, coding and physical structure of the tags, see our earlier applications ~~Docket Nos. NPP001US USSN 09/575,187, NPT001US USSN 09/575,154 and NPA047US USSN 09/663,701~~. The tags are preferably printed in a regular pattern on the surface of the sheet. The physical structure of each tag and the layout of the tags is not critical and the tags merely need to be at a sufficiently close spacing for the intended use and the capabilities of a sensing device used by the end user to detect the tags. Examples of suitable tag structures and layouts are found in our earlier applications, PCT specification No. PCT/US98/20597 and US Patent Nos. 5,625,412, 5,661,506, 5,477,012 and 5,852,434, the contents of which are included herein by reference. Suitable layouts include those in which the tags are centered on the vertices of triangles (regular, irregular, equilateral, isosceles etc), quadrilaterals (square, rectangle, parallelogram, rhombus etc), pentagons, hexagons and any other regular or irregular object having n vertices, where n is selected from 3 to infinity. It is not essential that the tags substantially cover the entire surface, although for convenience it is envisaged that most pre-printed or pre-formed sheets will have tags substantially covering all of both surfaces of each sheet. Figures 6 to 9 show three possible layouts of the tags, ranging from covering the entire surface though a strip of tags to a small area of tags, as shown in figure 9.

10 7-18  
The paragraph beginning at Page ~~11~~, lines ~~2-13~~ to be amended as follows:

2A 1/22  
The printer 1010 includes two sets of sensors 1018 and 1020 arranged such that the paper sheets pass between the two sets of sensors with the sensors positioned to sense any tag information pre-printed or pre-formed on the respective adjacent face of the paper. Each set may consist of a single sensor or two or more sensors arranged across the paper path. Use of two or more sensors provides redundancy. The sensors may be similar to that disclosed in relation to the netpage pen disclosed in our earlier application ~~docket number NPS001US USSN 09/575,174~~. Preferably the pre-printed or pre-formed information is printed using an infrared-absorptive ink and so the sensor may be a charge-coupled device (CCD) or a CMOS image sensor sensitive to infrared light. This may be achieved by using a CCD or

CMOS image sensor which is responsive only to infrared light or by providing a filter for a broad-spectrum sensitive CCD or CMOS image sensor. However any suitable image sensor may be used.

DA 1122  
10 21-31 through page 11, lines 1-3  
The paragraph beginning at Page 11, lines 22-28, to be amended as follows:

It will be appreciated that the sensors are fixed relative to the paper path and so the process of interpreting the tag images is much simpler compared to a movable sensing device, such as a pen type device. Preferably the sensors are positioned so the tag image is projected onto the image sensor substantially undistorted and corresponding to viewing the tag at 90° to the paper path. If this is not possible then the techniques disclosed in our earlier applications ~~docket numbers~~ NPT001US USSN 09/575,154 and NPS001US USSN 09/575,174 for correcting viewing at an angle may be utilized.

DA 1122  
14 12-30  
The paragraph beginning at Page 15, lines 5-21, to be amended as follows:

Whilst the use of cut sheets of paper is the preferred method of implementing the invention, the invention includes within its scope use of uncut continuous paper. The use of continuous paper may be commercially necessary for the production of mass-produced items, such as lottery type tickets or merely the provision of an interactive newspaper which is produced and distributed in the current manner. Variations of the netpage printer utilize a roll of continuous paper together with a paper cutter and so such printers may be modified to include one or more sensors to detect pre-printed or pre-formed tags on continuous paper. Other applications which may utilize continuous paper with pre-printed or pre-formed tags include portable printers and cameras which include printers. Examples of these are discussed in our earlier applications ~~docket numbers~~ NPP018US USSN 09/575,146 and NPP019US USSN 09/608,920. The devices of NPP018US USSN 09/575,146 and NPP019US USSN 09/608,920 may be modified to incorporate tag sensors and other hardware to enable derivation and transmittal of identity data or information for association with document data. In the case of a camera, the camera may transmit the image printed to a network server or it may store the association data in itself. The camera may include a user input to enable the user to input information relating to the images, such as a brief description or an audio annotation. This information may also be associated with the identity information.

Page 16 line 1 through  
1-41

JA 11/22  
The paragraph beginning at Page 17, lines 23-26, to be amended as follows:

Figure 6 shows a modified netpage printer 601 that incorporates the present invention. For a full description of the netpage system, including the netpage printer and pen, reference is made to earlier US applications ~~doeket numbers~~ NPT002US USSN 09/575,129, NPP003US USSN 09/575,155 and NPS001US USSN 09/575,174.

17 16-22

JA 11/22  
The paragraph beginning at Page 18, lines 7-13, to be amended as follows:

The sensors 950 & 951 detect the page IDs downstream of the two print mechanisms 602 and 603 and pass the information detected to a decoder in the printer controller similar to the decoder utilized in the netpage pen, also discussed in US applications ~~doeket numbers~~ NPT002US USSN 09/575,129 and NPS001US USSN 09/575,174. It will be appreciated that a separate transmitter is not required to return page IDs to the network server and that the data path used to receive data from the network may be used to return the page IDs to the network server.

18 21-29

JA 11/22  
The paragraph beginning at Page 19, lines 13-19, to be amended as follows:

The netpage system maintains association data between physical tagged pages and document data in the form of page instances maintained by a page server. For a full description of the netpage system, including the netpage printer and pen, reference is made to earlier US applications ~~doeket numbers~~ NPT002US USSN 09/575,129, NPP003US USSN 09/575,155 and NPS001US USSN 09/575,174. Figure 11 shows a class diagram for a modified netpage page instance 830 which allows the association to be made between document data and a pre-printed or pre-formed "blank" 938. Figure 12 shows a class diagram for the netpage blank 938.